

BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2018-2-E

April __, 2018

IN RE:)	
)	
Annual Review of Base Rates for Fuel)	SCE&G's PROPOSED ORDER
Costs for South Carolina Electric & Gas)	APPROVING FUEL COSTS
Company)	
_____)	

I. INTRODUCTION

This matter comes before the Public Service Commission of South Carolina ("Commission") on the annual review of the fuel purchasing practices and policies of South Carolina Electric & Gas Company ("SCE&G" or "Company") and for a determination as to whether any adjustment in the fuel cost recovery factors is necessary and reasonable. The procedure followed by the Commission in this proceeding is set forth in S.C. Code Ann. § 58-27-865 (2015). Additionally, and pursuant to S.C. Code Ann. § 58-39-140 (2015), the Commission must determine in this proceeding whether an increase or decrease should be granted in the fuel cost component designed to recover the incremental and avoided costs incurred by the Company to implement the Distributed Energy Resource ("DER") program previously approved by the Commission. The period under review in this Docket is January 1, 2017, through December 31, 2017 ("Review Period").

A. Notice and Interventions

By letter dated October 4, 2017, the Clerk's Office of the Commission instructed the Company to publish, by January 5, 2018, a Notice of Hearing and Prefile Testimony Deadlines

(“Notice”) in newspapers of general circulation in the area affected by the Commission’s annual review of the Company’s fuel purchasing practices and policies. The letter also instructed the Company to furnish the Notice to its customers by U.S. Mail, or by electronic mail to customers who have agreed to receive notice by electronic mail, by January 5, 2018. The Notice indicated the nature of the proceeding and advised all interested parties desiring participation in the scheduled proceeding of the manner and time in which to file appropriate pleadings. On December 5, 2017, the Company filed with the Commission affidavits demonstrating that the Notice was duly published in accordance with the instructions set forth in the Clerk’s Office October 4, 2017 letter. On December 15, 2017, the Company filed with the Commission an affidavit demonstrating that the Notice was appropriately furnished to each affected customer.

Petitions to intervene were received from the South Carolina Energy Users Committee (“SCEUC”), the South Carolina Coastal Conservation League (“SCCCL”), the Southern Alliance for Clean Energy (“SACE”), the South Carolina Solar Business Alliance, LLC (“SCSBA”), Southern Current, LLC (“Southern Current”), CMC Steel South Carolina (“CMC Steel”), Wal-Mart Stores, East, LP (“Wal-Mart”), Sam’s East, Inc. (“Sam’s”), and Solbright Energy Solutions, LLC (“Solbright”). SCE&G did not oppose the petitions to intervene and no other parties sought to intervene in this proceeding. By letters dated March 2, 2018, and March 5, 2018, Solbright, Wal-Mart, and Sam’s requested to withdraw their petitions to intervene, which requests were granted by Order Nos. 2018-175 and 2018-176, both dated March 14, 2018. The South Carolina Office of Regulatory Staff (“ORS”) is automatically a party pursuant to S.C. Code Ann. § 58-4-10(B) (2015).

II. STATUTORY STANDARDS AND REQUIRED FINDINGS

S.C. Code Ann. § 58-27-865(B) (2015) states in pertinent part that, “[u]pon conducting public hearings in accordance with law, the [C]ommission shall direct each company to place in effect in its base rate an amount designed to recover, during the succeeding twelve months, the fuel costs determined by the [C]ommission to be appropriate for that period, adjusted for the over-recovery or under-recovery from the preceding twelve-month period.”

III. HEARING

In order to consider the merits of this case, the Commission convened a hearing on this matter on April 10-11, 2018, with the Honorable Swain E. Whitfield presiding. SCE&G was represented by K. Chad Burgess, Esquire; Matthew W. Gissendanner, Esquire; and Benjamin P. Mustian, Esquire. SCEUC was represented by Scott Elliott, Esquire. SCCCL and SACE were represented by Katherine C. Ottenweller, Esquire. SCSBA was represented by Richard L. Whitt, Esquire, and Benjamin L. Snowden, Esquire. Southern Current was represented by Richard L. Whitt, Esquire. CMC Steel and its counsel of record were excused from attending and did not appear at the hearing. Andrew M. Bateman, Esquire, and Jenny R. Pittman, Esquire, represented ORS. In this Order, ORS, SCEUC, SCCCL, SACE, SCSBA, Southern Current, CMC Steel, and SCE&G are collectively referred to as the “Parties” or sometimes individually as a “Party.”

SCE&G presented the direct testimonies and exhibits of George A. Lippard, III; Henry E. Delk, Jr.; J. Darrin Kahl; Michael D. Shinn; Allen W. Rooks; John H. Raftery; and Joseph M. Lynch. ORS presented the direct testimonies and exhibits of Gaby Smith, Michael Seaman-Huynh,

Sarah W. Johnson, and Brian Horii.¹ SCCCL and SACE presented the direct testimony and exhibits of Devi Glick. SCSBA presented the direct testimony of Dr. Ben Johnson. Southern Current, SCEUC, and CMC Steel did not present witnesses at the hearing.

In response to the direct testimony of SCCCL and SACE Witness Glick, SCSBA Witness Ben Johnson, and ORS witnesses Seaman-Huynh and Horii, SCE&G presented the rebuttal testimony of Witnesses Rooks and Lynch. SCCCL and SACE filed surrebuttal testimony of Witness Glick, SCSBA filed surrebuttal of Witness Ben Johnson, and ORS filed surrebuttal of Witness Horii in response to SCE&G's rebuttal testimony.

IV. REVIEW OF THE EVIDENCE AND EVIDENTIARY CONCLUSIONS

After hearing the evidence and testimony of the witnesses, the Commission reaches the following factual and legal conclusions:

A. Avoided Costs, PR-1, and PR-2

1. SCE&G Testimony

SCE&G Witness Lynch explained the Company's calculations of avoided costs for power purchases under the Public Utilities Regulatory Policies Act of 1978 ("PURPA"). Following the methodology approved by the Commission in Order No. 2016-297, SCE&G uses a difference in revenue requirements ("DRR") methodology to calculate its avoided energy and capacity costs. This approach involves calculating the revenue requirements between a base case and a change case. The base case is defined by SCE&G's existing fleet of generators and the hourly load profile to be supplied by these generators. The change case is the same as the base case except that the

¹ Prior to the hearing and without objection from the remaining parties, the Commission granted SCE&G and ORS permission to utilize panels for the presentation of witnesses. SCE&G Witnesses Lippard and Delk were presented in the first panel for the Company; Witnesses Kahl and Shinn were presented in the second panel; and Witnesses Rooks, Raftery and Lynch were presented in the third panel. ORS Witnesses Seaman-Huynh and Smith were presented in the first panel for ORS, and Witnesses Sarah Johnson and Horii were presented in the second panel.

hourly loads are reduced by a 100-megawatt (“MW”) profile which is the maximum reduction required by regulation under PURPA. The avoided costs are then calculated by taking the difference in revenue requirements between the two plans.

For avoided energy costs, Witness Lynch testified that the Company calculates the change in production costs between a base case and a change case using a very carefully constructed computer program called PROSYM. To determine long-run avoided energy costs, this program models the commitment of generating units to serve load hour-by-hour over the course of the 15-year Integrated Resource Plan (“IRP”) planning horizon. Short-run avoided energy costs are calculated for the period May 2018 through April 2019. Using PROSYM to simulate the dispatch of its generation fleet over these time periods, SCE&G estimates the production costs that result from serving the base case load and the change case load.

Witness Lynch explained that SCE&G traditionally derived the change case from the base case by subtracting 100 MWs from every hour of the base case load profile. The Company then collected avoided energy costs into four time periods composed of two seasons—peak season and off-peak season—and two daily periods—peak hours and off-peak hours. Using these four time-of-use periods results in four avoided energy costs, one for each time period. Witness Lynch testified that, in this proceeding, the Company proposed to calculate its PR-2 rate for solar QFs by deriving the change case from the base case by subtracting a 100 MW solar profile from the base case. Because the solar distribution of energy is captured in the solar profile, avoided energy costs are not collected into separate time periods but simply added over all hours.

Witness Lynch testified that, in this proceeding, SCE&G is proposing to limit its PR-2 Rate to solar qualifying facilities (“QFs”) and that the Company must separate solar QFs from non-solar QFs in order to pay each type of QF the correct avoided costs. Witness Lynch explained that, as

more and more solar generation facilities interconnect with SCE&G's system, the benefit of each additional solar generation facility to the Company's system is diminished. Witness Lynch testified that, in order to measure this effect, the Company performed a study titled "Avoided Energy Cost Methods Study for Solar QFs" ("Methods Study"), which he sponsored as Hearing Exhibit No. 5 (JML-3).

Witness Lynch also testified that SCE&G has determined that during the months of May through October, or "Summer," the Company needs resource reserves of at least 14% of the projected summer peak demand to serve reliably during peak times and at least 12% during the remaining periods. Witness Lynch also testified for the months of November through April, or "Winter," SCE&G needs a minimum of 21% of its projected winter peak demand to serve reliably during winter peak periods and at least 14% during the remaining periods. In support of this determination, Witness Lynch sponsored the Company's Reserve Margin Study, identified as Hearing Exhibit No. 5 (JML-2).

Witness Lynch testified that the Methods Study compared the difference in revenue requirements between the base case and three different change cases using a traditional 100 MW round-the-clock profile, a 100 MW South Carolina solar profile, and a 100 MW North Carolina solar profile. After levelizing the avoided energy costs and averaging them over 10 random seed runs, Witness Lynch testified that the results show that using the round-the-clock profile to develop the change case results in over-estimating the avoided energy costs by \$4.85 per MWH. Witness Lynch explained that, as more and more solar is added to the system, the value of each additional increment of solar is reduced. Specifically, Witness Lynch stated that SCE&G's system first experiences a morning peak demand with little contribution from solar facilities. As the day progresses and solar facilities begin generating energy, SCE&G's residual system load profile

experiences a steep ramping down of load to a bottom level of load followed by a steep ramping up in load to an afternoon or evening peak demand. In sum, Witness Lynch testified that the additional energy from solar generation causes the system to experience decreasing minimum loads between the morning and evening peak. Witness Lynch also testified that, while solar energy coming onto the system certainly has value, it also causes operational issues that result in positive variable integration costs that lower the avoided cost. Based on this analysis, Witness Lynch testified that the Company's Avoided Energy Costs for the PR-2 rate are as follows:

Solar QF Avoided Energy Costs (\$/kWh)

Time Period	Annual
2018-2022	\$0.02853
2023-2027	\$0.02994
2028-2032	\$0.03414

To develop avoided capacity costs, Witness Lynch testified that the Company takes a similar approach. Using the difference in revenue requirements methodology approved by the Commission in Order No. 2016-297, SCE&G calculates the difference in the revenue requirements between the base case and the change case. Using the resource plan in its latest IRP or an updated resource plan if appropriate, SCE&G calculates the incremental capital investment related revenue required to support the existing resource plan. As with its calculation of avoided energy costs for solar, SCE&G derives a change case in its resource plan by considering the impact of a QF purchase from a 100 MW solar facility.

Witness Lynch testified that SCE&G currently has 865 MWs of solar capacity under Power Purchase Agreements ("PPAs") and the addition of another 100 MWs of solar has no effect on the resource plan. Witness Lynch further explained that, given the amount of solar generation that is

currently projected to be interconnected to SCE&G's system, adding additional blocks of 100 MW of solar generation does not affect the Company's future capacity needs.

In order to study this issue, Witness Lynch testified that the Company performed a study titled "On Calculating the Capacity Benefit of Solar QFs ("Solar Capacity Benefit Study") to analyze the impact of solar on its daily peak demands. This study shows that, on more than 80% of the days during the winter months of October through March, solar has no effect on SCE&G's daily peak demand because the winter peak occurs either early in the morning before solar begins to generate energy or in the evening after solar is no longer generating. Since SCE&G's Reserve Margin Study shows that SCE&G needs as much capacity in the winter as it does in the summer, Witness Lynch testified that a generating resource has to provide capacity in the winter as well as the summer in order to avoid the need for capacity and thereby have capacity value. Because solar does not provide capacity during the winter period, Witness Lynch testified that the Company is unable to avoid any of its projected future capacity needs and, therefore, the avoided capacity cost of solar for these winter months is zero.

SCE&G also analyzed the impact of solar on summer days and determined that, 800 MWs of solar can be expected to reduce the daily peak demand on average over non-peak days approximately 21% with only 9.6% for the last 100 MWs. Witness Lynch testified that, because only the incremental values are relevant for avoided cost calculations, the last 100 MWs of solar will reduce the summer peak by about 19.5 MWs on peak days and 9.6 MWs on the rest of the days, which translates into a peak effect of approximately 9.9 MWs and a base effect of approximately 9.6 MWs. Witness Lynch stated that, considering this small impact in summer and no impact in winter, SCE&G is not able to reduce capacity additions in its resource plan and therefore there are no avoided capacity costs.

Witness Lynch also testified that the Company plans to negotiate contracts with any non-solar QF for which the PR-1 rate is not appropriate. He explained that, in the past and prior to the development of the PR-2 rate, SCE&G for many years offered a PR-1 rate as well as an offer to negotiate a contract with any QF that did not qualify for the PR-1 rate. This response to PURPA worked satisfactorily for many years and SCE&G proposes to return to that arrangement for non-solar QFs of greater than 100 kilowatts (“kW”) and up to 80 MW.

Regarding the Company’s PR-1 Rate, Witness Lynch explained that, for the same reasons discussed regarding the PR-2 Rate, SCE&G must separate solar QFs from non-solar QFs in order to pay each type of QF the correct avoided costs. He testified that, if SCE&G does not distinguish its pricing between solar and non-solar QFs, then the amount SCE&G and its customers would be paying for solar energy would be more than the Company’s actual avoided costs, which is contrary to the explicit intent of PURPA.

For solar QFs on PR-1, SCE&G used the same methodology to estimate avoided energy costs as it did for solar QFs on PR-2. The only difference is the time period over which the avoided energy costs are estimated. The short-run avoided energy costs in the PR-1 rate are calculated for the period May 2018 through April 2019. Witness Lynch also testified that the avoided capacity cost for solar QFs subject to the PR-1 rate is zero because, as with the PR-2 rate, incremental solar QFs do not affect the resource plan and therefore avoid no future resources or their cost.

For non-solar QFs on PR-1, Witness Lynch testified that SCE&G used PROSYM to estimate the change in production costs that result from serving the base case load and the change case by subtracting a 100 MW round-the-clock power purchase profile. He stated that the avoided costs are accumulated into the four time-of-use periods described previously and a non-solar QF would be paid based on how much energy it produces in each of these four time-of-use periods.

For avoided capacity, Witness Lynch explained that, because the PR-1 rate is designed for small QFs with a capacity rating of up to 100 kW, SCE&G does not believe there will ever be enough capacity from these small non-solar QFs to affect its resource plan and, therefore, the avoided capacity costs for PR-1 are zero. Witness Lynch also stated that SCE&G proposes to change the PR-1 Rate for non-solar QFs by eliminating the critical peak hours as a way to credit QFs for their capacity value. He stated that it is more appropriate to simply add an avoided capacity credit to the avoided energy cost to deliver the capacity value to a solar QF. He also stated that the addition of so much solar on SCE&G's system shifts the Company's previously experienced effective peak hour and that it is inappropriate to look only to certain hours selected from past experience in which to pay out a capacity credit. Finally, he stated that since SCE&G's need for capacity spans the entire year, it is necessary to spread avoided capacity costs throughout the year to reflect the Company's reliability risk as explained in the Reserve Margin Study.

Based on these recommendations, Witness Lynch testified that the PR-1 Rates are as follows:

**PR-1 RATE: AVOIDED ENERGY COST
Non-Solar QFs (\$/kWh)**

Time Period	Peak Season Peak Hours	Peak Season Off-Peak Hours	Off-Peak Season Peak Hours	Off-Peak Season Off-Peak Hours
May-April	\$0.03233	\$0.02886	\$0.03445	\$0.03298

Solar QFs (\$/kWh)

Time Period	Year Round
May-April	\$0.03256

He stated that the avoided capacity costs for solar and non-solar are zero.

2. ORS, SCCCL, SACE, and SCSBA Testimony

Regarding the Company's methodology used to calculate its avoided energy and capacity costs, ORS, SCCCL, SACE, and SCSBA made a number of recommendations. Each of these recommendations, SCE&G's response, and the Commission's conclusions regarding each recommendation are addressed as follows:

a. Witness Horii testified that ORS reviewed SCE&G's avoided cost calculations in order to verify the Company is using the avoided cost methodology approved by the Commission, to confirm the methodology meets PURPA requirements, and to verify the avoided cost rates requested by SCE&G in this docket are a reasonable result of the approved avoided cost methodology. Witness Horii stated that the method used by SCE&G to calculate avoided energy costs is consistent with the methodology approved by the Commission in Order No. 2016-297. He further testified that, the use of a 100 MW solar profile is a valid application of the DRR methodology for the specific case of a solar generator and that, given SCE&G's assertion that the vast majority of recent and future QF resources are solar, it is an improvement to use an avoided energy cost which more closely tracks the avoided energy for solar generation. He also testified that SCE&G's fuel price forecasts which SCE&G used in calculating the avoided energy cost for both the 2017 and 2018 fuel adjustment proceedings are consistent and similar and that there appear to be no major changes in network configurations or import/export assumptions used by SCE&G. In sum, Witness Horii testified that the updates in SCE&G's avoided energy costs are a reasonable and consistent result of the methodology used by SCE&G and that the method used by SCE&G to calculate avoided energy costs for solar generators is appropriate.

The Commission finds that SCE&G's avoided energy costs are reasonable and that the use of a 100 MW solar profile to calculate avoided energy costs is appropriate. As discussed by

Witness Lynch, as more and more solar is added to SCE&G's system, the value of each additional increment of solar is reduced. Therefore, it is appropriate for the Company to use an avoided energy cost which more closely track the avoided energy for solar generation.

b. Regarding avoided capacity costs, Witness Horii disagreed with the Company's position that new solar projects will have no value and that SCE&G has not adequately demonstrated that winter capacity needs are the same or greater than summer capacity needs. Although Witness Horii stated SCE&G may be correct that there are no winter capacity reductions from additional solar, he expressed concern that parties have not had adequate opportunity to evaluate the accuracy of the winter capacity constraint. Witness Horii further testified as to his belief that SCE&G is overestimating the amount of reserve capacity the utility needs in the winter because of purported flaws in the Reserve Margin Study and that the Company's forecast of future summer and winter peak demands is inconsistent. As a result of these concerns and the uncertainty of this new position, Witness Horii recommended that SCE&G's position of zero avoided capacity costs be rejected at this time. He further recommended that, because he was unable to produce an independent estimate of avoided capacity costs for a 100 MW change in supply, the current capacity value should be maintained for both PR-1 and PR-2 until a better capacity value can be provided in the next rate update.

Witness Glick also testified that SCE&G has historically used a 14% winter reserve margin and that it has increased its winter reserve margin to 21%, reflecting a 50% increase over the winter reserve margin used by the Company last year. She also stated that the Company's proposed winter reserve margin is substantially higher than that of Duke Energy Carolinas, LLC, Duke Energy Progress, LLC, Southern Company, and Santee Cooper. Witness Glick testified that, while a robust reserve margin is necessary to protect system reliability, this increase in SCE&G's winter reserve

margin has a profound impact on system costs for ratepayers by requiring substantially more winter capacity than last year's plan.

In response, Witness Lynch testified that the Company has experienced a significant increase in new solar capacity with signed PPAs, reflecting 865 MW of capacity currently under contract and 17% of SCE&G's 2018 forecasted system peak demand of 5,077 MW. Witness Lynch explained that, as more and more solar is added, the usefulness or value of each successive addition decreases and that solar has reached the zero point for capacity because of the amount of solar under contract. He also disagreed that SCE&G's capacity needs are greater in the summer than in the winter, explaining that the seasonal peak demand forecasts and the seasonal reserve margins show that SCE&G's incremental capacity need is 112 MWs in the summer and 449 MWs in the winter.

Witness Lynch also testified that Witness Horii's suggested winter reserve margin results from an error in Witness Horii's calculations but, even so, the Company's 2019 winter need for capacity is 185 MW greater than the summer need. He also testified that SCE&G's estimate of the peak demand falls within the 95% confidence interval derived from Witness Horii's calculations. As a result, Witness Lynch testified that SCE&G's calculations are not statistically different from Witness Horii's and therefore should be considered a reasonable estimate of its forecasted winter capacity needs. Witness Lynch also disagreed with Witness Horii's recommendation to maintain the current avoided capacity costs values for both PR-1 and PR-2, explaining that, while these payments represent a pass through of costs and would be recoverable through SCE&G's fuel clause, SCE&G's customers ultimately would pay more for this purchased power than PURPA intends.

Witness Lynch also testified that, previously, SCE&G has not had a winter reserve margin, but only a summer reserve margin. He further disagreed with Witness Glick's suggestion that SCE&G's winter reserve margin was unreasonable when compared to those of other utilities. Specifically, Witness Lynch stated that PJM has a 16% summer reserve margin and a 27% winter reserve margin, both of which are greater than SCE&G's. He also testified that Florida electric utilities plan to a 20% reserve margin, which likely refers to a summer reserve margin, but that SCE&G's demand side risk is greater in winter than in summer. He also testified that, as his methodology and that of Witness Horii reflect, SCE&G's winter peak can increase approximately 500 MW due to abnormal winter weather, reflecting the need for at least a 6% increase in reserve margin, winter over summer. Accordingly, Witness Lynch testified that SCE&G's 21% reserve margin is very reasonable.

The Commission finds that SCE&G's proposal to set avoided capacity costs for its PR-1 and PR-2 rates at zero is reasonable. Since last year's fuel proceeding, SCE&G has had a dramatic change in circumstances with 865 MW of solar capacity now under contract.² The Company's analysis shows that the addition of another 100 MW of solar has no effect on its resource plan and, therefore, does not affect SCE&G's future capacity needs. The Commission also finds that SCE&G's determination that it needs as much capacity in the winter as it does in the summer is appropriate. A generating resource has to provide capacity in the winter as well as in the summer in order to avoid the need for capacity and thereby have capacity value. The Commission therefore concludes that, because additional solar does not provide capacity during the winter period, the Company is unable to avoid any of its projected future capacity needs from additional solar. The

² The Commission recognizes that this 865 MW of solar capacity under contract falls under the PR-2 rates established in Order Nos. 2016-297 and 2017-246, which provides a capacity payment for solar generation.

Commission further recognizes that no other party presented an alternative estimate of SCE&G's avoided capacity costs. The Commission also disagrees with Witness Horii's suggestion that the Company's current avoided capacity costs be maintained until the next rate update. There is no evidence to demonstrate that maintaining such rates would be appropriate or that it would not result in SCE&G's customers having to pay for excessive avoided capacity costs. Accordingly, the Commission finds that SCE&G's proposed avoided capacity cost for solar of zero is reasonable and appropriate.

The Commission also finds that SCE&G's winter reserve margin of 21% is reasonable. While the reserve margins calculated by Witness Horii and Witness Lynch differ to a degree, the differences are not significantly different. Furthermore, both Witness Horii and Witness Lynch recognize that SCE&G has a higher demand-side risk in the winter than in the summer. Accordingly, the Commission finds that it is appropriate for SCE&G to use a 14% reserve margin for the summer and a 21% reserve margin in the winter.

c. Witness Horii also disagreed with SCE&G's proposal to no longer provide a standard rate offer for non-solar resources. He testified that the lack of a published rate would increase the uncertainty and engagement costs for new resources.

In response, Witness Lynch testified that since there are no non-solar QFs currently seeking a PPA, there is no need for such a published tariff. Should a non-solar QF desire to enter into a PPA, Witness Lynch testified that SCE&G will negotiate a contract with that party. Witness Lynch stated that this approach has worked satisfactorily for SCE&G since PURPA was passed and only when the number of solar PPA applications significantly increased did the Company believe it would be more efficient to have a separate published rate for these QFs.

The Commission agrees with SCE&G. The record contains no evidence that a non-solar QF has recently sought to enter into a PPA agreement with the Company and, therefore, there is no need for a published non-solar QF tariff. Accordingly, the Commission finds that the Company should negotiate contracts with any non-solar QFs that are not eligible for the Company's non-solar PR-1 Rate as it did for many years prior to the establishment of the PR-2 Rate.

d. Witness Glick testified that, in this proceeding, SCE&G has proposed a substantial change to the avoided cost methodology approved by the Commission in prior dockets and that solar QFs are denied the benefits of deferring the addition of any new capacity that the Company proposes building. She also testifies that the Company did not use the methodology approved in Docket 2017-2-E to calculate the avoided generation capacity value.

In response and as discussed previously, Witness Lynch explained that SCE&G has not changed the methodology; rather there has been a change in the result caused by the significant increase in new solar capacity with PPAs since the Company's last fuel proceeding. Witness Lynch also testified that as more and more solar is added, the usefulness or value of each successive addition decreases and that solar has reached the zero point for capacity because of the amount of solar under contract.

For the same reasons stated previously, the Commission agrees with the Company. In Order No. 2016-297, the Commission approved SCE&G's difference in revenue requirements methodology to calculate both the energy component and the capacity component of its avoided costs. This approach involves calculating the revenue requirements between a base case and a change case. In calculating its avoided costs, SCE&G used the methodology approved in prior proceedings. In this proceeding, however, the Company proposes to calculate the change case using a 100 MW solar profile instead of a 100 MW round-the-clock profile as it has done in the

past. The Commission finds that this does not reflect a change in methodology; rather, this is a change in the analysis that is warranted by the substantial amount of solar currently under contract with the Company. Even so, because the vast majority of recent and future QF resources are solar, it is appropriate for SCE&G to use an avoided cost which more closely tracks the avoided costs for solar generation. The Commission further notes that, in the Company's last two fuel proceedings, SCCCL, SACE, and SCSBA all requested that the Company be required to use a solar profile so that it could more accurately estimate the avoided costs to be paid to solar QFs.

e. Witness Glick testified that the Company erred by failing to include in its revenue requirement calculations opportunity costs, which are the loss of potential gain from other alternatives when one alternative is chosen. Specifically, Witness Glick argued that additional solar would allow SCE&G to sell capacity in the market thereby increasing the value of additional solar.

In response, Witness Lynch testified that in order to sell capacity to a neighboring utility, it must be firm and dependable capacity. However, Witness Lynch noted that a solar QF does not have firm capacity as it is an intermittent resource and, therefore SCE&G could not sell solar capacity. He further testified that when SCE&G purchases firm capacity to serve its customers, it passes those costs onto its customers. Similarly, when SCE&G sells firm capacity, he testified that the benefits of such a sale should accrue to SCE&G's customers, not to the QF as proposed by Witness Glick. Finally, he testified that if there were a lucrative market for solar capacity, the solar facility would not be selling its energy to SCE&G at the Company's avoided cost rates but instead would sell its capacity directly to interested purchasers at higher prices.

In Order No. 2017-246, the Commission previously found that it is reasonable and appropriate for the Company not to consider opportunity costs in its revenue requirements

calculation in that a solar QF does not have firm capacity as it is an intermittent resource and does not add to the Company's opportunity to sell firm capacity. No evidence was presented warranting a deviation from this previous finding and the Commission therefore declines to adopt the position recommended by SCCCL and SACE.

f. Witness Glick also recommended that SCE&G should pay QFs a performance adjustment factor in order to treat the QF capacity equally with a utility's generating unit.

Witness Lynch disagreed with this suggestion, stating that it is not reasonable or meaningful to compare the intermittent capacity of a solar QF, which only provides energy as weather permits, with the firm capacity of a more dependable generating unit such as a combustion turbine. Based on data reflecting the maximum hourly output of a large solar generator on SCE&G's system, Witness Lynch testified that solar facilities provide little, if any, firm dependable capacity to SCE&G's system that the Company can reliably call upon to serve its customers.

The Commission agrees with the Company. As it found in Order No. 2017-246, the Commission again concludes that it is unreasonable to employ a performance adjustment factor to the capacity payment because there is no guarantee of performance with regard to capacity from solar facilities.

g. Witness Ben Johnson testified that QF rates should be set equal to the cost of having the utility build and operate its own generating units. Witness Johnson also testified that the public interest is best achieved by establishing rates that leave ratepayers indifferent as to whether energy and capacity is obtained from QFs or from the utility itself under traditional rate base regulation. Witness Johnson stated that retail customers are better served by regulatory

decisions that set avoided cost rates at a point that is closer to the long-run incremental costs that are incurred by utilities when they build and operate their own generating plants.

Witness Lynch testified that avoided cost rates should not be set to the utility's cost to build but, instead, should be set equal to the utility's actual avoided cost. Under any other circumstances, Witness Lynch testified that ratepayers would not be indifferent to purchases from a QF. He also noted that the rates in the Company's PR-2 tariff reflect SCE&G's long-term avoided costs.

The Commission agrees with SCE&G. The methodology approved by the Commission in Order No. 2016-297 and used by the Company in this proceeding sets forth the proper manner in which to determine the Company's actual avoided cost. As SCE&G has properly complied with and followed this method, the Commission concludes that SCSBA's recommendation to calculate avoided costs based on the utility's cost to build its own generating facilities is unreasonable and inappropriate.

h. Witness Ben Johnson next testified that SCE&G analyzed different generation expansion plans and the associated energy costs, but did not develop a comprehensive, detailed analysis of its revenue requirement and does not show the corresponding revenue requirement for these expansion plans or that this approach is consistent with minimizing revenue requirements. Witness Johnson also testified that the PROSYM model used by SCE&G to calculate its avoided costs has certain disadvantages.

In response, Witness Lynch testified that, for the PR-2 Rate, incremental solar beyond 865 MWs of solar capacity already under contract does not alter its resource plan and, therefore, the difference in capital-related revenue requirement is zero. He further testified that a comprehensive, detailed revenue requirement is not needed for the calculation of avoided costs which are based on incremental effects.

The Commission agrees with the Company. The Company properly calculated its avoided costs in compliance with the methodology approved by the Commission in Order No. 2016-297. As it did in Order No. 2017-246, the Commission also finds that it is appropriate for SCE&G to use PROSYM, which is a standard production costing model used in the industry. Accordingly, the Commission finds that Witness Johnson's recommendations are unreasonable and unnecessary.

i. Witness Ben Johnson testified that he developed estimates of the Company's avoided capacity costs using the Proxy Unit method based on a hypothetical nuclear plant, combined-cycle plant, and combustion turbine. He stated that these calculations suggest SCE&G's proposed rates are below the capacity-related cost of building and operating these three types of generating units over their entire economic life. For this reason, Witness Johnson stated that it is appropriate for the Commission to increase the avoided cost rates to be closer to those of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC. He also testified that higher avoided cost rates would be more consistent with the long-run incremental cost of new capacity and would better encourage QF development within SCE&G's service area.

Witness Lynch disagreed, stating that Witness Johnson failed to explain how the cost to construct these proxy plants relate to the costs SCE&G would avoid through a QF purchase, *i.e.*, the avoided cost rates that leave ratepayers indifferent. He further noted that ratepayers would not be indifferent to the choice of paying the different capacity costs of a nuclear plant, a combined-cycle plant, or a combustion turbine. Rather, given the choice, Witness Lynch testified that ratepayers would choose to pay the capacity cost of the least expensive generating facility—a combustion turbine.

The Commission finds that Witness Johnson's recommendation is unreasonable. SCE&G properly calculated its avoided costs using the methodology approved by the Commission in Order No. 2016-297. As stated previously, SCSBA's recommendation to calculate avoided costs based on the utility's cost to build its own generating facilities is unreasonable and inappropriate. The Commission further restates its findings in Order No. 2017-246 that using the proxy method as recommended by Witness Johnson would not add further accuracy to the estimate of SCE&G's avoided costs and, therefore, declines to modify the approved methodology in the manner suggested by Witness Johnson.

j. Witness Ben Johnson next addressed the Company's variable energy costs, noting that natural gas prices have fluctuated over both short and medium time frames, although stating that they have exhibited a tendency to trend higher over the long term. Witness Johnson testified that the instability of natural gas prices and difficulties associated with predicting these prices is one of the principal disadvantages or risks associated with using this fuel source. Witness Johnson further testified that, in developing his long-run avoided cost estimates, he evaluated multiple scenarios using a number of different assumptions based upon historical natural gas prices.

In response, Witness Lynch agreed that future natural gas prices are uncertain but stated that a simple trend line based on historical natural gas prices cannot be used with confidence to project future prices as a result of the recent advancements in fracking technology. Instead, Witness Lynch testified that SCE&G uses the price of futures contracts traded on the NYMEX over the next three years and then applies a growth rate to project prices over the longer term. Witness Lynch stated that NYMEX prices have been used in SCE&G's fuel hearings for many years

because they represent publicly available information and also are good indicators of gas prices in the short term.

The Commission finds that SCE&G's methodology to estimate future natural gas prices is reasonable and consistent with the methodology approved in Order No. 2016-297. Again, as noted by the Commission in Order No. 2017-246, the Company has used this methodology for a number of years to estimate future natural gas prices. The Commission therefore concludes that Witness Johnson's recommended changes to this methodology is unreasonable and unnecessary and would not result in more accurate estimates of future natural gas prices.

k. Witness Ben Johnson addressed the Company's decision to abandon the new nuclear units and suggests that the Company did not consider the benefits of a balanced generating portfolio in developing its proposed QF rates.

Witness Lynch disagreed with Witness Johnson and testified that SCE&G is aware of the resource mix. He further testified that the Company believes that the addition of 865 MW of solar capacity helps to have a more balanced generating portfolio. However, Witness Lynch stated that SCE&G, like most utilities, believes that gas-fired generation is the most economical choice of dispatchable generation for the next few years.

The Commission finds that the Company has experienced a substantial growth in solar generation on its system which undoubtedly will provide a more balanced generation portfolio. The Commission therefore disagrees with Witness Johnson's suggestion.

l. Regarding the Company's proposed changes to the avoided capacity rates for solar and to Rate PR-1 and PR-2, Witness Ben Johnson testified that not compensating QFs for their reliability benefits is intensely and unlawfully discriminatory. He also objected to limiting Rate PR-2 to solar projects and asserts that this would establish an arbitrary distinction between

solar and non-solar technologies. Witness Johnson also objected to SCE&G's proposal to update Rate PR-2 on an as-needed basis. Finally, Witness Johnson testified that solar and non-solar generators should not be paid different prices.

In response, Witness Lynch testified that, in the context of avoided costs, the issue is not what benefits or value QFs will receive. Rather, Witness Lynch stated that the issue is what capacity costs are being avoided and, simply put, if no capacity costs are avoided, then the avoided cost is zero. Witness Lynch also testified that the Company's proposal to distinguish between solar and non-solar projects is not arbitrary since SCE&G only has solar projects requesting avoided cost rates and the determination of avoided cost depends strongly on the type of project under consideration. When a non-solar project seeks to enter into a PPA with SCE&G and requests its avoided costs, Witness Lynch stated that some specification has to be made as to what the project's power producing characteristics will be. Regarding battery storage projects, Witness Raftery testified that SCE&G will issue an RFP to collect information on solar plus battery projects with the intention of having a project or two placed online and that SCE&G then will be better able to analyze the impacts of these types of projects on its system. Finally, Witness Lynch testified that SCE&G believes it is sufficient to have a scheduled update of the PR-2 rate once a year at the fuel hearing with the option, but not the requirement, to update it more frequently on an as needed basis. Witness Lynch also testified that QFs should be paid their avoided cost. He stated that solar QFs all have similar characteristics and avoid costs at approximately the same rate and that, for this reason, providing a standard rate for solar QFs, such as PR-2 and PR-1, is efficient and reasonable. Witness Lynch also testified that because non-solar QFs may have significantly different characteristics; these projects should be considered on an individual basis and separate, specific PPAs should be negotiated for each such project. And, even though it is not possible to

accurately estimate the impact small non-solar QFs (under 100 kW) have on the system individually, Witness Lynch stated that the impact they do have is so small that establishing a separate rate for these facilities would be meaningless. Rather, Witness Lynch testified it is more appropriate to have a standard rate for these types of projects such as the Company's Rate PR-1.

The Commission finds that the Company's proposed changes to Rate PR-1 and PR-2 are reasonable. Avoided capacity costs should be calculated based on how much future capacity can be avoided and, if no such capacity can be avoided, the avoided capacity cost should be zero. In order for SCE&G to pay the appropriate amount of avoided costs and therefore prevent customers from having to pay for avoided costs that are too high, it also is appropriate for SCE&G to distinguish between solar and non-solar QFs in its Rate PR-1 and PR-2 and to pay different avoided costs based on their different characteristics. The Commission also agrees with SCE&G's proposal to update Rate PR-2 once a year, and that it should be permitted, but not required, to update it more frequently on an as-needed basis. This procedure strikes a reasonable balance between responsiveness and stability. The Commission also recognizes that, in previous proceedings, SCCCL, SACE, and SCSBA recommended that Rate PR-2 be updated on an annual or biennial basis and that biannual updates create uncertainty for QF developers.

m. Witness Ben Johnson also testified that the Commission should be moving in the direction of requiring stronger, more precise price signals to help guide competitive investment decisions and that the elimination of the capacity rate makes the solar rate structure even less granular than it is now.

Witness Lynch responded by stating that PURPA requires SCE&G to purchase the power produced by any and all QFs that desire to sell power at the Company's avoided cost. He further

testified that SCE&G is prohibited by law from turning away less efficient QFs, so the use of avoided costs is not a good vehicle to enhance competitive markets.

The Commission agrees with the Company. Given the requirements of PURPA, it is not appropriate to use avoided costs to encourage competitive investment decisions.

n. Witness Ben Johnson testified that electrical energy is a joint product when viewed across time and that capacity used to generate electricity during the peak daytime hours is also available for use during other hours. He further testified that a reasonable share of the annual fixed costs of capacity should also be recovered during many other hours of the year, including the early morning hours of December through February, when extreme peaks also sometimes occur. Witness Johnson therefore suggested that avoided costs should include a markup to provide a mechanism for joint and common costs.

Witness Lynch disagreed and testified that a markup suggests that SCE&G should pay more than its avoided cost which is contrary to the intent of PURPA. If SCE&G avoids any joint and common costs through the purchase of power from a QF, Witness Lynch testified that those costs should be reflected in its avoided cost rate but without a markup. In response to Witness Johnson's suggestion that a combined-cycle generating facility that provides capacity in the winter will also provide capacity in the summer, Witness Lynch stated that if SCE&G has to build a combined-cycle unit to meet its winter peak, but which also satisfies the need for summer capacity, then the fixed costs are incurred. In contrast, Witness Lynch noted that adding solar capacity, which only has an impact on capacity in the summer, does not avoid any of those fixed costs.

The Commission agrees with SCE&G. The Company properly calculated its avoided costs using the methodology approved by the Commission in Order No. 2016-297 and the Commission

finds it would be inappropriate to markup avoided costs to provide a mechanism for joint and common costs.

3. *The Commission's Overall Conclusions Regarding Avoided Costs, PR-1, and PR-2*

Based upon the evidence of record, and after reviewing the testimony of the parties of record, the Commission finds and concludes that SCE&G properly calculated its avoided energy and capacity costs under PURPA using the difference in revenue requirements methodology approved by the Commission in Order No. 2016-297. The Commission further concludes that the difference in revenue requirements methodology remains reasonable, prudent, and appropriate, and that SCE&G's proposal to use a 100 MW solar profile to calculate avoided costs is warranted and appropriate. The Commission also finds and concludes that SCE&G's proposed PR-1 and PR-2 Rate Schedules set forth rates, credits, and charges, that are lawful, just, and reasonable and are based on reasonable methodologies.

B. NEM Distributed Energy Resources Methodology

1. *SCE&G Testimony*

Company Witness Lynch testified that, by way of its Order No. 2015-194 issued in Docket No. 2014-246-E, the Commission approved the following 11 components of value for NEM Distributed Energy Resources:

Net Energy Metering Methodology

1. +/- Avoided Energy
2. +/-Energy Losses/Line Losses
3. +/- Avoided Capacity
4. +/- Ancillary Services
5. +/- T&D Capacity
6. +/- Avoided Criteria Pollutants
7. +/- Avoided CO₂ Emission Cost
8. +/- Fuel Hedge
9. +/-Utility Integration & Interconnection Costs
10. +/- Utility Administration Costs
11. +/- Environmental Costs

= Total Value of NEM Distributed Energy Resources

He also testified that, in Docket No. 2017-2-E, the Company calculated the value for these components and, in Order No. 2017-246, the Commission determined that those values complied with the NEM Methodology approved by the Commission in Order No. 2015-194. As set forth in Table 10 to his direct testimony, Witness Lynch stated that the Company updated these components of value by calculating the current value and one for the value over the IRP planning horizon. Witness Lynch further provided information on SCE&G's evaluation of each component and its estimate of the associated value. Witness Rooks also sponsored the Company's proposed "Rider to Retail Rates – Net Energy Metering for Renewable Energy Facilities" tariff sheet which updates the total value of NEM Distributed Energy Resource to reflect the components of value for NEM Distributed Energy Resources enumerated by Witness Lynch.

2. ORS Testimony

Witness Sarah Johnson testified that the Company's calculation of the NEM Incentive is consistent with the methodology approved in Commission Order No. 2015-194 and that the value of the customers' distributed generation was calculated using the amount from the NEM tariff approved in Commission Order No. 2017-246. Witness Horii similarly testified that SCE&G is following the methodology approved by the Commission in Order No. 2015-194 in evaluating the

value of each component of the NEM DERs Total Value stack. Witness Horii testified that SCE&G bases its NEM DERs avoided energy and capacity costs on the PURPA avoided cost values and that the PURPA avoided energy cost decreased from last year, leading to a reduction in the NEM DERs avoided energy cost. With respect to the component of value for avoided capacity, Witness Horii stated that this value is based on the PURPA avoided capacity cost values and that, should the Commission reject the Company's proposed avoided capacity cost value, the Total Value of NEM Distributed Energy Resources would be impacted. Regarding the value for T&D Capacity, Witness Horii noted that SCE&G's practice of designing transmission and distribution circuits to assume DER is not generating due to weather factors or because DER resources are off line follows the Commission-approved methodology but it is a conservative approach.

3. SCCCL and SACE Testimony, Responsive Testimony, and the Commission Conclusions

Regarding the Company's updated components of value for the NEM Distributed Energy Resources methodology, Witness Glick made a number of recommendations. Each of these recommendations, SCE&G's response, and the Commission's conclusions regarding each recommendation are addressed as follows:

a. Witness Glick testified that SCE&G's description of avoided line losses associated with DERs is inadequate and that the Company erred in calculating line losses. Specifically, Witness Glick stated that the Company used annual average system losses as the basis for calculating marginal losses rather than losses associated with the temporal solar profile and failed to calculate transmission losses as marginal. She also testified that avoided marginal transmission and distribution line losses have capacity implications. Witness Glick further stated that QFs connected at the distribution level should be reimbursed for transmission level savings

and that small QFs and NEM DERs should be reimbursed for both transmission level and distribution-level savings.

In response, Witness Lynch first noted that the recommendations advanced by Witness Glick had been previously raised in Docket No. 2017-2-E and that the Commission had found in Order No. 2017-246 that “the Company’s calculation of line losses is appropriate and that average transmission losses are the best estimate to use for marginal losses.” Nevertheless, Witness Lynch also testified that the PR-1 and PR-2 rates and the 11-point NEM methodology all involve the adjustment of QF energy supplied over many hours of the year. Therefore, Witness Lynch testified that the use of an annual average system loss factor is appropriate. He also stated that SCE&G has calculated system line losses for many years and believes that the estimation of losses for each hour of the year or for many incremental levels would be a burdensome enterprise that would yield little or no value. Witness Lynch further testified that to estimate marginal line losses on the distribution system, SCE&G doubled the average line losses as agreed to by Witness Glick. On the transmission system, however, Witness Lynch stated the Company believes that marginal losses should be approximated by average losses and that marginal line losses in a network will be less than those on the distribution system.

He further testified that to estimate marginal losses, SCE&G’s analysis considered lowering the loads at each substation to effect a 100 MW decrease across the system, and then eliminating a source of energy from the Company’s Hagood Unit to balance the system. Under these circumstances, the analysis showed that power had to flow a greater distance to serve the load and losses increased, meaning that average losses were greater than marginal losses. After performing several similar analyses, the Company concluded that average transmission losses are the best estimate to use for marginal losses.

Regarding the capacity implications associated with avoided marginal transmission and distribution line losses, Witness Lynch testified that SCE&G applies line losses for both energy and capacity as appropriate. Responding to Witness Glick's testimony regarding the reimbursement of transmission and distribution level savings, Witness Lynch testified payments or credits to small QFs and NEMs are subsidized by SCE&G's DER program and that, therefore, reimbursement is not at issue. He further stated that the PR-1 rate for small QFs and the NEM avoided cost methodology have loss factor adjustments and that larger QFs likely will flow power back onto the transmission system and will incur, not avoid, transmission level losses.

The Commission finds that the Company's calculation of line losses is appropriate, that average transmission losses are the best estimate to use for marginal losses, and that the Company properly applied line losses for both energy and capacity in a manner consistent with the methodology approved in Order No. 2015-194. The Commission further finds that no evidence was presented to warrant findings different from those previously made by the Commission in Order No. 2017-246.

b. Regarding transmission and distribution ("T&D") capacity, Witness Glick stated DERs, in aggregate and on average over time, reduces the need for T&D capacity investments. She testified that if the DER alleviates some of the strain on the system during transmission or distribution system peaks, then that resource reduces pressure on that system and helps to defer or avoid future upgrades to that system. She also stated that energy efficiency resources are regularly credited with avoided or deferring T&D investments.

Witness Lynch responded by stating that, with the NEM solar capacity distributed throughout the system, the current impact on any single transmission line is less than 1,500 kW. SCE&G's transmission planning engineers consider this level of load, which is 0.1% of the total

load, to be no more than noise on the system and it does not have any expected impact on the need for future transmission lines. Witness Lynch further testified that it is not clear whether the solar generators increase the strain on distribution lines or decrease it. However, he noted that Company data shows that solar output is likely to increase the strain on the distribution system. Regardless, he testified that SCE&G's distribution engineers must plan the distribution line assuming the solar output is zero because solar is an intermittent resource. Witness Lynch also testified that other energy resources, such as energy efficiency, may be credited with avoiding transmission and distribution costs. However, he opined that in considering a program such as energy efficiency, the effects of which are dispersed around a system, an analysis of the localized impact will demonstrate the impact to be too small to affect the transmission system. He also stated that with respect to the distribution system, energy efficiency is not an intermittent resource like a solar generator so there may be justification for an avoided cost credit.

As it did in Order No. 2017-246, the Commission again agrees with the position of SCE&G. The Company must design its transmission and distribution system so as to provide safe and reliable electric service, even when intermittent generation sources such as solar facilities and other small QFs are not producing power.

c. Witness Glick also recommended that an adjustment should be made to reflect an impact on SCE&G's reserve margin, stating that DER resources have capacity value, and that capacity value also translates into a reduced reserve margin requirement. She further stated that the avoided T&D line losses of 8% to 9% are reliable and this portion of avoided generation capacity should be counted towards reducing the level of peak load for which SCE&G should plan.

In response, Witness Lynch testified that the Commission previously found it is appropriate for SCE&G to maintain a reserve margin to back up DERs which are intermittent supply resources and that, accordingly, DER resources do not result in a reserve margin benefit for the Company.

The Commission agrees with SCE&G. As it previously found in Order No. 2017-246, the Commission finds that it is appropriate for the Company to maintain a reserve margin to back up DERs, which are intermittent supply sources. Accordingly, DER resources do not result in a reserve margin benefit for the Company.

d. Witness Glick next testified that to the extent distributed energy generators help to alleviate costs associated with environmental compliance at SCE&G's other facilities, those savings should be reflected in the NEM calculation. She stated that avoided environmental costs, such as costs associated with coal combustion residuals, are financial, quantifiable, and a direct result of DER generation.

Witness Lynch again noted that the Commission previously found that the Company's methodology properly accounts for avoided environmental costs and that there are no other environmental costs that are not already included in the other specific components of this methodology. Witness Lynch also noted that the Settlement Agreement entered into by the parties of record to Docket No. 2014-246-E, including SCCCL and SACE, affirmatively states that "[t]he environmental compliance and/or Utility system costs might be accounted for in the Avoided Energy component, but, if not, should be accounted for separately. The Avoided Energy component must specify if these are included." Witness Lynch testified that there are no environmental costs that are not already included in the other specific components of the methodology and, for this reason, SCE&G appropriately assigned a zero avoided cost value to this component.

Consistent with the Commission's prior findings in Order No. 2017-246, the Commission finds that the Company properly accounted for avoided environmental costs and that there are no other environmental costs that are not already included in the other specific components of the methodology. The Commission also finds that, while it may be possible to separately account for environmental costs, there is no net change to the Total Value of NEM Distributed Energy Resources. Thus, requiring the Company to undertake this exercise would require it to devote additional time and energy and incur additional costs related to the fuel proceeding with no corresponding or substantial benefit.

4. SCSBA Testimony

SCSBA did not present any testimony regarding the Company's updated components of value for the NEM Distributed Energy Resources methodology.

5. The Commission's Overall Conclusions Regarding NEM Distributed Energy Resources Methodology

Based upon the evidence of record, and after reviewing the testimony of the parties of record and the Settlement Agreement entered into by the parties of record to Docket No. 2014-146-E, the Commission finds that SCE&G properly evaluated the components of value for NEM Distributed Energy Resources as shown in Table 10 of Witness Lynch's testimony, as corrected, in accordance with the NEM methodology approved by the Commission in Order No. 2015-194.

C. DER Programs and Costs

1. SCE&G Testimony

Company Witness Raftery discussed the performance of the Company's DER programs during the Review Period, and the costs associated with offering these DER programs during the Review Period. These programs include offering utility-scale DER programs and customer-scale

NEM incentives, Performance Based Incentives, Bill Credit Agreements (“BCA”) programs, and developing the Company’s Community Solar program. Witness Raftery also discussed the Company’s DER cost projections for the forecast period January 1, 2018, through April 30, 2019. As a result of these efforts, the balance of DER program costs at the end of the Review Period totaled (\$1,504,690) in avoided costs and \$798,039 in incremental costs. For the period January 1, 2018, through April 30, 2019, the Company projects that DER program costs will include \$9,304,269 in avoided costs and \$25,313,951 in incremental costs.

Witness Rooks provided actual data on the Company’s DER avoided and incremental costs for the historical Review Period and the projected DER costs for the period January 1, 2018, through April 30, 2019. As reflected in Hearing Exhibit No. 4 (AWR-7), Witness Rooks testified that the Company’s forecasted DERP Avoided Cost Components for the period May 2018 through April 2019 should be as follows: 0.042 cents per kWh for the Residential rate class; 0.038 cents per kWh for the Small General Service rate class; 0.032 cents per kWh for the Medium General Service rate class; and 0.019 cents per kWh for the Large General Service rate class. He also testified that, as reflected in Hearing Exhibit No. 4 (AWR-9), the Company’s DERP Incremental Costs by class should be: \$1.00 per account per month for the Residential rate class; \$5.37 per account per month for the Small/Medium General Service rate class; and \$100.00 per account per month for the Large General Service rate class. Witness Rooks also sponsored the Company’s proposed “Adjustment for Fuel, Variable Environmental & Avoided Capacity, and Distributed Energy Resource Program Costs” tariff.

Witness Raftery further testified that, as of December 31, 2017, nine solar farms totaling 48.16 MW have been constructed and interconnected to SCE&G’s distribution system. As such, Witness Raftery testified SCE&G has achieved the 1% goal for Utility-scale facilities set forth in

Act 236. Witness Raftery also stated that, as of December 31, 2017, SCE&G had 6,161 customers participating in its customer-scale DER goals representing approximately 56.81 MW of solar generating capacity on SCE&G's system and, therefore, has achieved the 1% goal for Customer-scale facilities set forth in Act 236.

Witness Raftery also testified that, based on overall NEM adoption levels experienced since July 1, 2016, SCE&G forecasts that it will meet Act 236's net metering limit or cap of 2% in April or May 2019. Regarding the Company's Community Solar program, Witness Raftery stated that, pursuant to the Credit Rate Agreement between SCE&G and the Clean Energy Collective, LLC ("CEC") which was approved by the Commission in Order No. 2016-707, CEC is actively constructing three community solar facilities totaling 16 MW. Witness Raftery also testified that, as of February 15, 2018, 95 Low-Income customers have purchased or subscribed to a total of 0.526 MW of community solar, 903 residential customers have purchased or subscribed to a total of 5.55 MW of community solar, and 22 churches, schools, and municipalities have purchased or subscribed to a total of 9.45 MW of community solar. Witness Raftery testified that the remaining 0.474 MW of capacity is reserved for Low-Income customers and continues to be marketed through SCE&G, CEC, and 8 customer assistance agencies. Witness Raftery also advised the Commission that SCE&G is exploring moving forward with the additional 1% Utility-scale investment contemplated in S.C. Code Ann. § 58-39-130(D) and that, if SCE&G identifies competitive projects that provide system benefits, the Company anticipates applying to the Commission for approval to move forward with the contracts and deployment.

2. ORS Testimony

Witness Sarah Johnson testified that the Company's calculations are in compliance with Act No. 236 of 2014 and Commission Orders, and that the Company's calculations support the

following annual proposed DERP Charges: Residential \$12.00, Small and Medium General Service \$64.39, and Large General Service \$1,200.00.

3. SCCCL, SACE, and SCSBA Testimony

SCCCL, SACE, and SCSBA did not present any testimony regarding the DER programs offered by the Company during the Review Period or the associated costs.

4. The Commission's Overall Conclusions Regarding DER Programs and Cost

The Commission finds that the evidence presented by SCE&G establishes that, during the Review Period, SCE&G offered DER programs and took appropriate steps to fulfill its DER goals approved by the Commission in Order No. 2015-194. The Commission further finds that the Company's DER programs and the associated costs are reasonable and prudent and are designed to meet SCE&G's statutorily designated goals as set by S.C. Code Ann. § 58-39-130.

D. Fuel Purchasing Practices, Environmental Costs, Plant Operations, and Fuel Inventory Management

1. SCE&G Testimony

SCE&G witnesses testified on issues related to the prudence of SCE&G's fuel purchasing practices, plant operations, and fuel inventory management, and explained the regulatory atmosphere governing environmental compliance for SCE&G. SCE&G Witness Lippard discussed the operating performance of the V.C. Summer Nuclear Station. SCE&G Witness Delk reviewed the operating performance of the Company's fossil/hydro units and of South Carolina Generating Company's Williams Electric Generating Station. Company Witness Shinn discussed the Company's procurement and delivery activities for coal and No. 2 fuel oil for electric generation, the changes that have occurred in coal markets since the last annual fuel adjustment hearing, and how these changes affected coal procurement during the Review Period and are

anticipated to affect future procurement. Witness Shinn also discussed the procurement and delivery of limestone for the wet scrubbers at Wateree and Williams Stations, the nuclear fuel purchasing processes for SCE&G generation, uranium prices, and the near-term outlook of coal and uranium prices. SCE&G Witness Kahl provided testimony about the natural gas purchasing processes for SCE&G generation and discussed natural gas prices as well as the near-term outlook.

SCE&G Witness Rooks provided actual fuel cost data for the historical Review Period, and projected fuel costs for the period January 1, 2017, through April 30, 2018; and recommended fuel rates for the period of May 2018 through April 2019. Hearing Exhibit No. 4 (AWR-5) shows the Company's forecasted variable environmental & avoided capacity costs and the allocation of those costs to retail customer classes for the period of May 2018 through April 2019. This exhibit also details forecasted sales data by class, over/under recovery computations, and calculates the projected Variable Environmental & Avoided Capacity Cost Components per kWh for the same period. The Variable Environmental & Avoided Capacity Components produced by these calculations are projected to recover all costs and are as follows: 0.083 cents per kWh for the Residential rate class; 0.075 cents per kWh for the Small General Service rate class; 0.063 cents per kWh for the Medium General Service rate class; and 0.039 cents per kWh for the Large General Service rate class.

2. ORS Testimony

Witness Smith testified and presented the results of the ORS Audit Department's examination of the Company's books and records pertaining to the Fuel Adjustment Clause operation for the Actual Period, and the Company's estimated calculations for the months of January 2018 through April 2018. Based on the ORS Audit Department's examination of the Company's books and records, and the Company's operation of the fuel cost recovery mechanism,

Witness Smith testified that the Company's books and records accurately reflect the fuel costs incurred by the Company in accordance with previous Commission orders and with S.C. Code Ann. § 58-27-865 (2015). Witness Seaman-Huynh testified to the ORS's findings resulting from its review of the Company's fuel expenses and power plant operations used in the generation of electricity during the Review Period. Based on ORS's review of the Company's operation of its generating facilities during the Review Period, Witness Seaman-Huynh testified that the Company made reasonable efforts to maximize unit availability and minimize fuel costs during the Review Period. Witness Seaman-Huynh also testified that, in Order No. 2017-246, the Commission approved SCE&G's proposal to use the Internal Revenue Service ("IRS") Section 174 deduction claims to lower its Environmental Components based on its Accumulated Deferred Income Taxes ("ADIT") liability balances as of September 30, 2017. In reviewing the Company's books and records, Witness Seaman-Huynh testified that ORS did not find the Company made any adjustments to its Environmental Capacity Components during the Actual Period attributed to the IRS Section 174 deduction claims.

In response, Witness Rooks testified that, in Order No. 2017-246 the Commission approved SCE&G's proposal to use Section 174 research and experimentation tax benefits related to the construction of V.C. Summer Units 2 and 3 to reduce the Environmental Component of its total fuel cost factor in an amount based on its ADIT liability balances as of September 30, 2017, and "to make the reduction concurrent with the implementation of the Company's 2017 BLRA revised rates request." *See* Commission Order No. 2017-246 at p. 54. However, Witness Rooks testified that SCE&G did not seek a 2017 BLRA revised rates update and, instead, filed and later withdrew an abandonment petition. Witness Rooks testified that, among other things, the abandonment petition sought recovery of the costs of the abandoned plant without an increase in rates and

proposed using Section 174 tax benefits, as well as additional tax benefits arising from abandonment, as a means to reduce capital cost recovery. Witness Rooks further testified that, on January 12, 2018, SCE&G along with Dominion Energy, Inc. filed a joint petition (“Joint Petition”) which reflected a proposed rate decrease and also provided for the use of all tax benefits related to the abandoned nuclear construction project, both Section 174 and the tax abandonment deduction, for the benefit of customers. Witness Rooks testified that, for these reasons, SCE&G did not make an adjustment to its Environmental Component in 2017 attributed to the IRS Section 174 deduction claims, and that the deduction will be considered in the Joint Petition.

3. SCCCL, SACE, and SCSBA Testimony

SCCCL, SACE, and SCSBA did not present any testimony regarding the Company’s fuel purchasing practices, environmental costs, plant operations, fuel inventory management, or the operations of the power plants during the Review Period.

4. Commission Conclusions Regarding Fuel Purchasing Practices, Environmental Costs, Plant Operations, and Fuel Inventory Management

As reflected in the evidence of record, no party challenged the reasonableness or prudence of SCE&G’s fuel purchasing practices and policies, environmental costs, plant operations, and fuel inventory management during the Review Period. With respect to the Section 174 deductions approved by the Commission in Order No. 2017-246, the Commission finds that SCE&G’s proposal to consider these deductions in the Joint Petition docket is reasonable. Based upon the evidence and testimony of the witnesses, the Commission therefore finds and concludes that SCE&G’s fuel purchasing practices and policies, environmental costs, plant operations, and fuel inventory management during the Review Period are reasonable and prudent.

E. Proposed Base Fuel Component

1. SCE&G Testimony

Witness Rooks testified that the actual base fuel under-collected balance was \$2,355,695 at December 31, 2017, and the projected over-collected balance to be \$50,536,981 at the end of April 2018. Witness Rooks also testified that a Base Fuel Component of 2.457 cents per kWh is projected to recover all base fuel costs in the forecast period in addition to eliminating the projected over-collected balance by the end of April 2019. Witness Rooks further testified that, in compliance with Commission Order No. 2013-776 and pursuant to the Company's February 22, 2018 letter in Docket No. 2013-382-E, the Company plans to apply gains from recently settled interest rate swaps in the amount of \$113,739,272 to reduce its base fuel cost under-collection balance. Witness Rooks also testified that, although the fuel cost statute permits utilities to recover their prudently incurred fuel costs as precisely and promptly as possible, for this proceeding and to mitigate rate impacts to its retail electric customers, the Company is proposing to maintain its Base Fuel component at 2.451 cents per kWh. Witness Rooks further testified that the Company is proposing that the Variable Environmental & Avoided Capacity Cost components be increased for the May 2018-April 2019 time period and to increase its DER Incremental Cost Components per account per month to \$1.00 for Residential customers and \$5.37 for Small/Medium General Service customers. The per account per month fee for Large General Service customers will remain unchanged at \$100.00 to comply with the DERP Act caps. When combining the Company's 2018 proposals for Fuel and DSM cost recovery, Witness Rooks testified that the average monthly bill for residential customers using 1,000 kWh per month would increase from \$147.53 to \$147.70. This \$0.17 per month impact would become effective with the first billing cycle of May 2018.

2. ORS Testimony

Witness Seaman-Huynh testified that as of December 2017, the Company had a base fuel cumulative under-recovery balance of \$2,355,695, a variable environmental and avoided capacity over-recovery balance of (\$2,272,425), and DERP avoided costs over-recovery balance of (\$1,504,687). As shown on Hearing Exhibit No. 14 (GS-5), page 2 of 2, ORS projects the Company to have a base fuel cumulative over-recovery balance of (\$50,536,981), a variable environmental and avoided capacity over-recovery balance of (\$1,051,097), and DERP avoided costs over recovery balance of (\$479,920) as of April 30, 2018. Witness Seaman-Huynh also testified that ORS recommends the Commission approve the Company's current Base Fuel Component remain in effect for bills rendered on and after the first billing cycle for May 2018 and continue through the last billing cycle for April 2019. He also testified that ORS recommends that the Commission approve the Company's proposed Environmental and Avoided Capacity Components and DERP Avoided Cost Components for the period of May 2018 through April 2019. Witness Seaman-Huynh further testified that ORS reviewed the Company's proposal to apply gains from recently settled interest rate swaps to reduce its Base Fuel Component. The Company's proposal is in compliance with Commission Order No. 2013-776 and ORS supports the Company's proposal.

3. SCCCL, SACE, and SCSBA Testimony

SCCCL, SACE, and SCSBA did not present any testimony regarding the Company's proposed base fuel component.

4. Commission Conclusions Regarding the Proposed Base Fuel Cost Component

As reflected in the evidence of record, no party challenged SCE&G's proposed Base Fuel Cost Component. Based upon the evidence and testimony of the witnesses, the Commission

therefore finds and concludes that SCE&G's proposed Base Fuel Component is reasonable and prudent and is consistent with S.C. Code Ann. § 58-27-865 (2015).

V. FINDINGS OF FACT AND CONCLUSIONS OF LAW

The methodologies used by SCE&G to calculate its avoided energy and capacity costs under PURPA as described in the testimony of SCE&G Witness Lynch are reasonable and prudent.

SCE&G's proposed Rate Schedules PR-1 and PR-2, including the rates, credits, charges, and underlying methodologies, and the terms and conditions of service, are lawful, just, and reasonable.

SCE&G's calculation and method of accounting for avoided and incremental costs for NEM during the Review Period were reasonable and prudent, were consistent with the methodology approved in Commission in Order No. 2015-194, and complied with S.C. Code Ann. § 58-40-10, *et seq.* (2015).

The updated components of value for NEM Distributed Energy Resources as shown in Table 10 on page 27 of the direct testimony of SCE&G Witness Lynch are reasonable and prudent, comply with the NEM methodology approved by the Commission in Order No. 2015-194, properly evaluate and/or quantify all categories of potential costs or benefits to SCE&G's system, and satisfy the requirements of S.C. Code Ann. § 58-40-10, *et seq.* (2015).

SCE&G's proposed revisions to its "Rider to Retail Rates – Net Energy Metering for Renewable Energy Facilities" tariff sheet, including the rates, terms, and conditions, are lawful, just, and reasonable.

SCE&G's calculation of and method of accounting for avoided costs and incremental costs for NEM during the Review Period were reasonable and prudent, were consistent with

methodology approved in Commission Order No. 2015-194, and complied with S.C. Code Ann. § 58-40-10, *et seq.* (2015).

During the Review Period, SCE&G offered DER programs and took steps to fulfill its DER goals approved by the Commission in Order No. 2015-194, which programs and steps were reasonable and prudent, complied with Commission Order Nos. 2015-194 and 2015-512, and were designed to meet SCE&G's statutorily designated goals as set by S.C. Code Ann. § 58-39-130 (2015).

As a result of SCE&G's efforts to provide the DER programs, the balance of the DER program costs as of December 31, 2017, totaled (\$1,504,690) in avoided costs and \$798,039 in incremental costs, which costs are reasonable and prudent.

SCE&G's proposed DER Avoided Cost Components by class are reasonable and prudent. SCE&G's proposed monthly per account DER Incremental Cost Components by class properly allocates SCE&G's DER program incremental costs and are reasonable and prudent.

SCE&G's proposed "Adjustment for Fuel, Variable Environmental, & Avoided Capacity, and Distributed Energy Resource Program Costs" tariff sheet, including the rates, terms, and conditions, is lawful, just, and reasonable.

SCE&G's fuel purchasing practices and policies, plant operations, fuel inventory management, and all other matters associated with S.C. Code Ann. § 58-27-865 (2015) are reasonable and prudent.

IT IS THEREFORE ORDERED THAT:

1. The fuel purchasing practices and policies, plant operations, fuel inventory management, and all other matters associated with S.C. Code Ann. § 58-27-865 (2015) of SCE&G are reasonable and prudent for the period January 1, 2017, through December 31, 2017.

2. The methodologies used by SCE&G to calculate its avoided energy and avoided capacity costs under PURPA are reasonable and prudent.

3. Rate Schedules PR-1 and PR-2, including the rates, credits, charges, and underlying methodologies, and the terms and conditions of services, are lawful, just, and reasonable and are hereby approved for use on, during, and after the first billing cycle in May 2018.

4. SCE&G's calculation and method of accounting for avoided and incremental costs for NEM during the Review Period were reasonable and prudent, were consistent with the methodology approved in Commission in Order No. 2015-194, and complied with S.C. Code Ann. § 58-40-10, *et seq.* (2015).

5. The updated components of value for NEM Distributed Energy Resources listed in the table below comply with the NEM methodology approved by the Commission in Order No. 2015-194, properly evaluate and/or quantify all categories of potential costs or benefits to SCE&G's system and satisfy the requirements of S.C. Code Ann. § 58-40-10, *et seq.* (2015).

	Current Period (\$/kWh)	IRP Planning Horizon (15- Year Levelized) (\$/kWh)	Components
1	\$0.03070	\$0.03010	Avoided Energy Costs
2	\$0	\$0	Avoided Capacity Costs
3	\$0	\$0	Ancillary Services
4	\$0	\$0	T & D Capacity
5	\$0.00008	\$0.00008	Avoided Criteria Pollutants
6	\$0	\$0	Avoided CO ₂ Emission Cost
7	\$0	\$0	Fuel Hedge
8	\$0	\$0	Utility Integration & Interconnection Costs
9	\$0	\$0	Utility Administration Costs
10	\$0	\$0	Environmental Costs
11	\$0.03078	\$0.03018	Subtotal
12	\$0.00251	\$0.00246	Line Losses @ 0.9245
13	\$0.03329	\$0.03264	Total Value of NEM Distributed Energy Resources

6. SCE&G’s proposed revisions to its “Rider to Retail Rates – Net Energy Metering for Renewable Energy Facilities” and “Adjustment for Fuel, Variable Environmental, & Avoided Capacity, and Distributed Energy Resource Program Costs” tariff sheets are lawful, just and reasonable and are hereby approved for use on, during, and after the first billing cycle in May 2018.

7. SCE&G’s DER programs offered during the Review Period were reasonable and prudent, complied with Commission Order Nos. 2015-194 and 2015-512, and were designed to meet SCE&G’s statutorily designated goals as set by S.C. Code Ann. § 58-39-130 (2015).

8. SCE&G's proposed monthly per account DER Avoided Cost Components by class, as set forth below, properly allocate SCE&G's DER program avoided costs, are reasonable and prudent, and are hereby approved for use on, during, and after the first billing cycle in May 2018.

Class	DER Avoided Cost Component (cents/kWh)
Residential	0.042
Small General Svc.	0.038
Medium General Svc.	0.032
Large General Svc.	0.019

9. SCE&G's proposed monthly per account DER Incremental Cost Components by class, as set forth below, properly allocate SCE&G's DER program incremental costs and are reasonable and prudent, and are hereby approved for use on, during, and after the first billing cycle in May 2018.

Class	Monthly Per Account DER Incremental Cost Component
Residential	\$ 1.00
Small & Medium Gen. Svc.	\$ 5.37
Large General Service	\$ 100.00

10. SCE&G shall set its Base Fuel Cost Component, Variable Environmental & Avoided Capacity Cost Components and Total Fuel Cost Factors consistent with the amounts set forth in the table below effective for bills rendered on and after the first billing cycle of May 2018.

Class	Base Fuel Cost Component (cents/kWh)	DERP Avoided Cost Component	Variable Environmental & Avoided Capacity Cost Component (cents/kWh)	Total Fuel Costs Factor (cents/kWh)
Residential	2.451	0.042	0.083	2.576
Small General Service	2.451	0.038	0.075	2.564
Medium General Service	2.451	0.032	0.063	2.546
Large General Service	2.451	0.019	0.039	2.509
Lighting	2.451	0.000	0.000	2.451

11. SCE&G shall file with the Commission the tariff sheets and rate schedules approved by this Order and all other retail tariff sheets within ten (10) days of receipt of this Order, and also serve copies on the Parties. The fuel rates reflected in any such tariff sheets shall be consistent with the components and factors set forth herein.

12. SCE&G shall comply with the notice requirements set forth in S.C. Code Ann. § 58-27-865(B) (2015).

13. SCE&G shall continue to file the monthly reports as previously required.

14. SCE&G shall account monthly to the Commission and ORS for the differences between the recovery of fuel costs through base rates and the actual fuel costs experienced by booking the difference to unbilled revenues with a corresponding deferred debit or credit. ORS shall monitor the cumulative recovery amount.

15. SCE&G shall submit monthly reports of fuel costs and scheduled and unscheduled outages of generating units with a capacity of 100 megawatts or greater to the Commission and ORS.

16. This Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:

Swain E. Whitfield, Chairman

ATTEST:

Comer H. Randall, Vice Chairman

(SEAL)